Austromyia neglecta Hardy, a New Synonym of Neotoxura discoidalis (Bezzi) (Diptera: Pyrgotidae), with a Discussion of Some Family Relationships

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Austromyia neglecta was described from a series of specimens from New South Wales (Hardy, Proc. Haw. Ent. Soc. 15(2):327–330, figs. 1a–f, 1954) which I had originally considered to be an aberrant genus and species of Tephritidae, and I could not satisfactorily place it. Although obviously belonging in a borderline group the species seemed to possess more of the characteristics of the Tephritidae than of any of the related families. In the keys to the subfamilies and genera of Tephritidae it runs to the Oedaspinae and fits fairly close (in keys) to the genus *Oedaspis* Loew, although it is obviously not related to this genus nor to any of the members of this subfamily with which I am acquainted.

While studying at the British Museum (Natual History) during the summer of 1954, I had my first opportunity to examine specimens of the pyrgotid tribe Toxurini and discovered that I had been in error in my treatment of the series which I had earlier studied from Australia. About the same time, Dr. Martin Aczél, Tucumán, Argentina, wrote to me pointing out that my species was probably a synonym of *Neotoxura discoidalis* (Bezzi) (Proc. Linn. Soc. N.S. Wales 54:9, 1929). I have checked this in detail and without doubt these are the same species.

This brings up an interesting and most confusing controversy regarding the true position of various of these borderline groups. Dr. Aczél has pointed out, in correspondence, that phylogenetically the members of the Australian tribe Toxurini are very closely related to the Tephritidae. He also said he was convinced that the Australian region is the place where the families Pyrgotidae and Tephritidae have been segregating from the same ancestors. I believe also that at least some of the Otitidae of Australasia may have arisen from common ancestors with some of the Pyrgotidae and Tephritidae. The typical members of these three groups are very readily differentiated by a number of striking family characters. The atypical members show all degrees of intergradation to the extent that the family criteria seem to break down completely. Correspondingly the authorities on these various families differ greatly in their placement of the controversial groups.

The pyrgotids are treated as a subfamily of the Otitidae in the British Museum collection; most authors, however, treat them as a distinct family. Malloch (PROC. LINN. SOC. N.S. WALES 54:23, 1929) restricted the Pyrgotidae to those genera which have (1) the 2nd antennal segment entire (lacking a longitudinal dorsal cleft); (2) ocelli lacking or rudimentary; (3) middle coxae without a well-developed prong; (4) empodium without a fringe of fine hairs; and (5) the lower calypter shorter than the upper, usually rudimentary. Malloch considered the Toxurini (*Neotoxura et al.*) to belong to the family Otitidae because of the presence of ocelli, a midcoxal prong, the 2nd antennal segment cleft, the empodium fringed, and the lower calypter well developed. In *Neotoxura discoidalis* I see no evidence of a fringe on the empodium, and the otitid characters listed by Malloch are possessed by most tephritids.

In his comparison of the characters of the Tephritidae (as Trypetidae) and the Otitidae (as Ortalidae) Malloch (INS. SAMOA 6, fasc. 7:1, 1931) said: "There is a very strong resemblance between many members of this family [Tephritidae] and others belonging to the Ortalidae, but they may be separated from the latter by the bristling of the frons and pleura and less decisively by wing venation." He indicated that incurved inferior fronto-orbital bristles are always present in the Tephritidae, in Otitidae and the "orbits are frequently entirely devoid of bristles, and there are but a few cases where an anterior incurved bristle is present." The inferior fronto-orbital bristles are predominantly present in the Tephritidae, but at least in genera such as *Monacrosticus* Bezzi and *Callantra* Walker they are lacking. Malloch said the pteropleuron of the Tephritidae "always bears a quite well developed bristle or numerous strong setulae" and that he knew of no member of the Otitidae which possesses a strong bristle. The pteropleural bristle is well developed in *Neotoxura*. Malloch further stated: "where there is any doubt as to either or both of these characters the course of the subcostal vein may be taken as the criterion." Following this concept, *Neotoxura* would seem to be a fruit fly, and I still fail to find satisfactory characters for placing it in any other family. This as well as other borderline groups needs to be studied in more detail to determine whether or not the Otitidae, Pyrgotidae, and Tephritidae should be retained as distinct families or combined under one family. This statement would also pertain to the otitid subfamily Platystominae, treated as a distinct family by some workers.

Typically the tephritids can be recognized by having the subcostal vein bent upward sharply at a right angle before the apex and the cubital cell drawn out into an acute point at its lower apex. The fruit fly tribe Eribiini, however, lacks the pointed cubital cell; the otitid subfamily Ulidiinae has the cubital cell pointed; the otitid subfamily Plastotephritinae has the subcostal vein as in the Tephritidae, bent angularly at the tip; and in many of the Toxurini the subcosta is bent upward and cell Cu is sharply pointed.